SHORT COMMUNICATION

Dermoscopy of Gouty Tophus: Unveiling New Patterns

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INTRODUCTION

Tophi are deposits of monosodium urate crystals caused by hyperuricemia and are considered pathognomonic for gout. They typically present as firm subcutaneous nodules around joints but can sometimes ulcerate or fistulize, releasing a chalky white substance. In rare cases, subcutaneous tophi may be the initial manifestation of gout, potentially leading to confusion with other dermatological conditions and complicating diagnosis. In such instances, dermoscopy can be a valuable tool to aid diagnosis, guide further investigations, and help avoid unnecessary biopsies.

CASE PRESENTATION

A 70-year-old patient with a history of undiagnosed inflammatory arthralgia was referred to the dermatology department for asymptomatic foot lesions that had been evolving over 6 months, some of which progressed to ulceration and fistulization, discharging a chalky white material.

Clinical examination revealed firm, ulcerated, and crusted nodules over the malleoli and plantar surfaces, along with small, rounded, whitish lesions on the soles (**Figure 1**). Dermoscopy showed bright yellow and creamy-white structureless areas, violaceous erythema, hairpin and glomerular vessels, and hemorrhagic crusts surrounded by a starburst pattern (**Figure 2**).

Based on these findings, ulcerated gouty tophi were suspected. The patient was referred to rheumatology, where the diagnosis was confirmed through radiological evaluation, serum uric acid testing, and tophus aspiration, which demonstrated negatively birefringent, needle-shaped monosodium urate (MSU) crystals under polarized light microscopy. The patient was treated with colchicine and allopurinol, along with appropriate dietary modifications, leading to a noticeable improvement in skin lesions.

DISCUSSION

Tophi, though uncommon, are characteristic of gout and typically develop after prolonged periods of uncontrolled disease. However, in rare instances, they may present as the initial manifestation of the condition, posing substantial diagnostic challenges.

Clinically, gouty tophi can mimic various dermatological conditions. They may appear as small, whitish, rounded lesions resembling milia or calcinosis cutis. Alternatively, they can manifest as firm subcutaneous nodules with a yellowish hue, resembling epidermoid cysts, rheumatoid nodules, xanthomatous dermatofibromas, or pilomatricomas. When they fistulize, they can mimic gummatous dermatoses such as tuberculosis, syphilis,

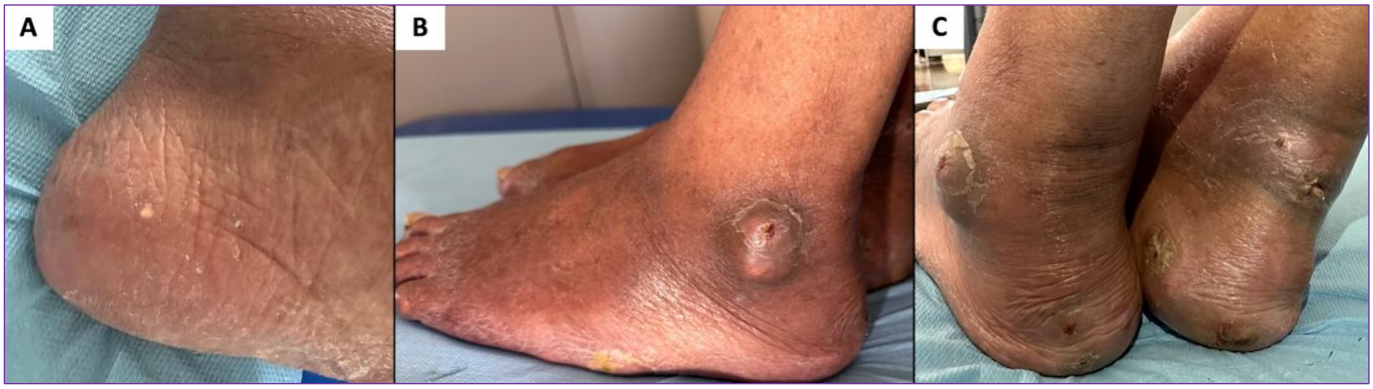

Figure 1. Clinical presentation: Small, rounded, whitish milia-like plantar lesion (A). Crusty subcutaneous nodules with a yellowish hue over the ankles and soles (B-C).

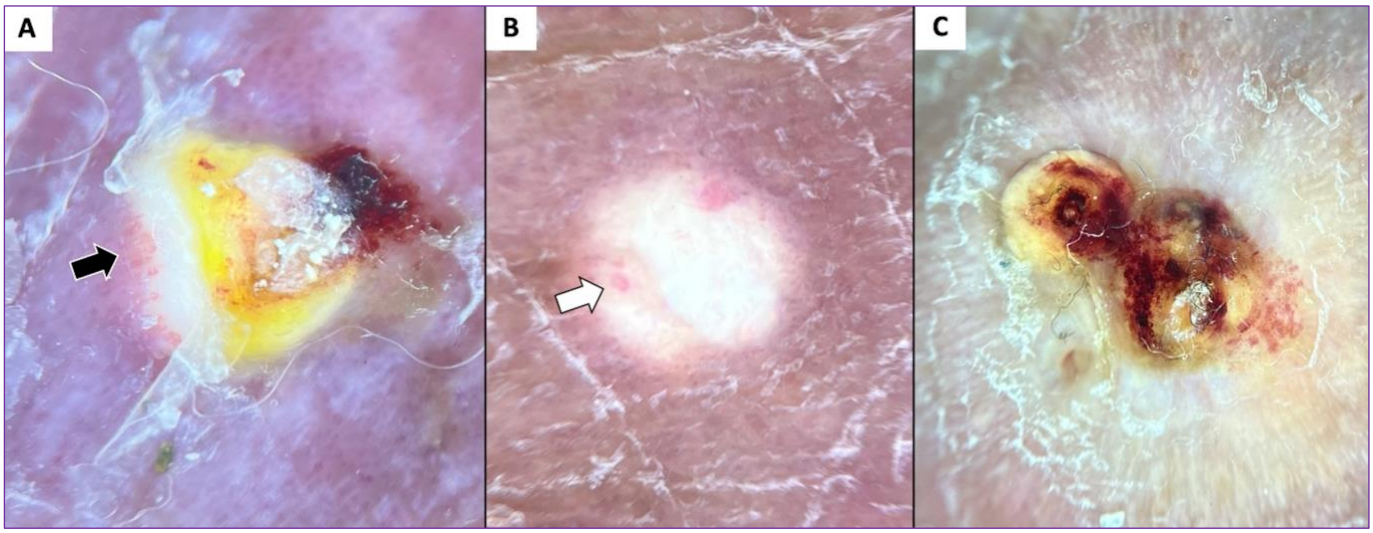

Figure 2. Dermoscopic features of gouty tophi: Whitish and bright yellow structureless central area with a hemorrhagic crust, surrounded by hairpin vessels (black arrow) and violaceous erythema (A). Amorphous central creamy-white area with glomerular vessels (white arrow) (B). Yellow and hemorrhagic central area with a starburst pattern (C).

deep mycoses, or pyogenic infections. In rare cases, ulceration may occur, leading to confusion with leishmaniasis or tumoral lesions such as basal cell carcinoma, keratoacanthoma, or squamous cell carcinoma.

Dermoscopy, though underreported in the literature, can be a valuable, rapid, and non-invasive tool for guiding diagnosis. It can reveal bright white dots corresponding to monosodium urate crystals, creamy-white structureless areas with a “popcorn-like” appearance or an "antler-like" arrangement, yellow clods or milia-like globules, branched or linear vessels, violaceous erythema, central scales, or hemorrhagic crusts.[1-6]

CONCLUSION

To the best of our knowledge, this is the first report documenting hairpin and glomerular vessels in gouty tophi, along with a starburst pattern—typically observed in leishmaniasis but likely explained here by parakeratotic hyperkeratosis. Our case underscores the importance of considering tophaceous gout in patients with atypical nodules exhibiting a whitish-yellowish appearance on

dermoscopy. Early recognition facilitates timely initiation of urate-lowering therapy, ultimately improving prognosis.

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